

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. **(Currently Amended)** In a telephone network connecting a first subscriber end point to a second subscriber ~~end point~~ end point by a signal transmission channel having a digital channel portion, a method of determining properties of said signal transmission channel, said method comprising:

sending a digital probing signal from a first subscriber terminal connected to said first subscriber end point to a second subscriber terminal, connected to said second subscriber end point, said digital probing signal having a sequence of probing frames, each probing frame having at least ~~one frame portion~~ two frame portions, each frame portion having a ~~preset number~~ the same preset number of digital symbols, each digital symbol having ~~[[a]]~~ one sign bit and ~~[[a]]~~ one data bit, wherein absolute digital values of ~~[[the]]~~ all symbols in the frame portions are equal, and wherein a value of the sign bit changes with every adjacent frame portion,

receiving, at said second subscriber terminal, a received signal resulting from having transmitted said digital probing signal through said signal transmission channel;

comparing said received signal with said digital probing signal to distinguish between possible channel configurations of said signal transmission channel; and

transmitting a response signal from said second subscriber terminal to said first subscriber terminal, said response signal carrying information indicative of a result of comparing said received signal with said digital probing signal.

2. **(Original)** The method according to claim 1, wherein sending a digital probing signal comprises setting all data bits of each symbol of a probing frame to have the same logical value.
3. **(Original)** The method according to claim 1, wherein sending a digital probing signal comprises setting the total number of symbols of a probing frame to be greater than the number of symbols in an impulse response of a digital impairment of the signal transmission channel.
4. **(Original)** The method according to claim 3, wherein setting the total number of symbols of a probing frame further comprises selecting the total number of symbols per probing frame to be 80.
5. **(Currently Amended)** A subscriber terminal connected to a subscriber end point of a telephone network having a plurality of subscribers, said subscriber terminal comprising:
  - a connection between said subscriber terminal and a subscriber end point, said subscriber end point being connected to the telephone network by a digital channel portion, and
  - a probing signal transmitter for sending, to a second subscriber terminal to which a signal transmission channel has been established, a digital probing signal having a sequence of probing frames, each probing frame having at least ~~one frame portion~~ two frame portions, each frame portion having a ~~preset number~~ the same preset number of digital symbols, each digital symbol having ~~[[a]] one sign bit and data bits one data bit~~, wherein absolute digital values of ~~[[the]] all~~ symbols in the frame portions are equal, and wherein the value of the sign bit changes with every adjacent frame portion.
6. **(Currently Amended)** The subscriber terminal of claim 5, wherein one bit position of said ~~at least one pulse~~ digital symbol changes value with every other frame.

7. **(Original)** The subscriber terminal of claim 6, wherein said one bit position is the position of the sign bit.
8. **(Currently Amended)** The subscriber terminal of claim 5, wherein the number of equal symbols per frame is ~~significantly~~ higher than the number of ~~pulse~~ digital symbols.
9. **(Currently Amended)** The subscriber terminal of claim 5, wherein there is one ~~pulse~~ digital symbol per frame.
10. **(Currently Amended)** The subscriber terminal of claim 5, wherein there are two ~~pulse~~ digital symbols per frame.
11. **(Original)** The subscriber terminal of claim 5, wherein the total number of symbols per frame is 80.
12. **(Currently Amended)** A telephone network comprising:
  - a connection between a subscriber end point of said telephone network and a first subscriber terminal, said subscriber end point being connected to the telephone network by a digital channel portion, and
  - a probing signal transmitter for sending, to a second subscriber terminal to which a signal transmission channel has been established, a digital probing signal having a sequence of frames, each frame having a sequence of digital symbols, the sequence including the same preset number of digital symbols, each symbol having ~~a plurality of bits~~ one sign bit and one data bit, wherein digital values of all symbols over all frames are equal except for one bit position of each symbol, the value of which changes with every other frame.
13. **(Currently Amended)** A telephone network comprising:

a connection between a subscriber end point of said telephone network and a first subscriber terminal, said subscriber end point being connected to the telephone network by a digital channel portion,

a probing signal transmitter for sending, to said second subscriber terminal, a digital probing signal having a sequence of frames, each frame having a sequence of digital symbols, the sequence including the same preset number of digital symbols, each symbol having a plurality of bits one sign bit and one data bit, wherein digital values of all symbols are equal except for at least one symbol of each frame having a ~~significantly~~ different digital value compared to the remaining equal values.